

The Industrial Heritage in Transformation. Searching for appropriate – new function for the Industrial Heritage

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The subject of the study are industrial facilities from the turn of nineteenth and twentieth century's. The aim of the research was to examine the correlation between saving the historical values and the adaptation of the building. The scope of study is protection of unique beauty of architectural monuments (by reusing and emphasizing the values) in the process of adaptation to new functions, such as manufacturing, commercial, cultural and residential. Maximum respect for the original features and preserving historic substance is a requirement of the XXI century. According to a statement of The Council of Europe from 1990 the industrial and the engineering buildings are the integral part of the European history. We should respect them and save for future generations.

Keywords: industrial architecture, function, Poland, adaptation

Introduction

The National Institute of Heritage keeps a record of industrial objects, which should be protected. Over two thousand of industrial objects [Figure 1] has been entered to the register of monuments up to this day, that makes them significant part of immovable monuments [3]. It is a significant percentage of historic buildings entered to the record, according to data.

It should be remembered that, almost hundred of thousand industrial buildings have not been protected - exist only in evidence. These objects occur most often in heavily urbanized provinces (in the province of Dolny Śląsk, Mazowsze, Podkarpackie) [Figure 2], [Figure3]

In Polish history there were many border changes. Thanks to this process on Polish territory we can find many industrial objects of German origin and Germany used to

be a leader in industrial development back in a XIX century.

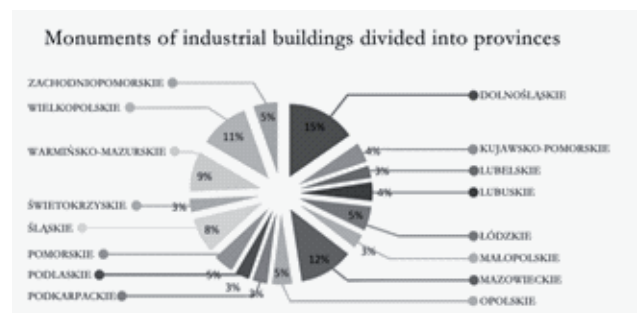


Figure 2. A percentage diagram presenting monuments of industrial buildings divided into provinces

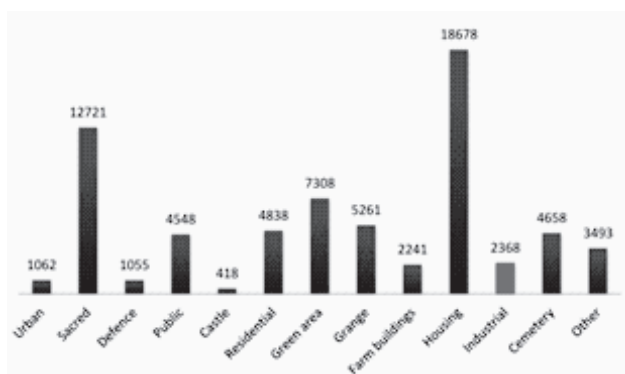


Figure 1. A quantitative diagram of immovable monuments entered in the register of monuments divided into provinces.

Monuments of industrial building divided into provinces



Figure 3. A quantitative diagram of industrial facilities entered in the register of monuments

Post-industrial terrains are often a difficult problems and big challenges for modern quickly developing cities.

Background – the short history of the industrial buildings

Industrialization period in Poland is dated to the turn of the nineteenth and twentieth century when dynamic development of cities took place. Big scale production was developed throughout the period of partitions and continued during (till the end of) the Second World War.

Industrial buildings had their own architectural character. Most of industrial buildings from the late nineteenth and early twentieth-century, due to lowering costs, were build with a facing brick, not plastered. Characteristic and important element of industrial buildings were tall chimneys, towering over the surrounding, often even higher than church towers.

That makes the architectural and urban heritage a significant part of our, European history. Described objects carry history and traditions of the places where they were built.

Usually the first building of the future industrial complex to be built was the production hall. Other facilities grew around it. Later on the primary plans were developed. Through years transforming that facilities into a small cities, including houses, hospitals, schools etc.

One of the complex of industrial buildings are Warsaw Factory of Vodka Koneser. This complex is subdivided at the end of XIX century. The gradual development of that part of Praga, was associated to the a large recovery caused the construction of the railway connecting Warsaw-Praga and the Russian Empire. Praga has become a transfer station [13] for goods exported from Russia to West Europe



Figure 4. A figure ground illustrating changes in development through years in the Koneser complex

and vice versa. These areas have become very attractive for both housing and industrial investment.

In 1886 the company was established cleaning and sale of spirits, created on the basis of existing small distillery on the street Dobra 18.

Liquor stores buildings arose gradually, spread over several stages [Figure 4]. Factory area was divided into two, different functional parts: the part of the production-warehouse and part of the office and residential function. The main building filtration bottles warehouse, boiler rooms with free standing chimney and 4 detached warehouse buildings was constructed as a first.

Industrial architecture, built at the beginning of the twentieth century, often has prototype structure, unique building solutions, and innovative technical equipment. This qualities makes these objects unique and valuable. Architectural and urban heritage mirrors the development of our ideas, history, culture and society, becoming fundamental part of our identity. Industrial era is a part of this heritage.

Shape of the current transformation

At the turn of the nineteenth and twentieth century city was defined by sumptuousness and diversity of public buildings. It reflected social needs, being the clear sign of changes in societies awareness (changes in relation to science, culture, art, technology and lifestyles).

The twentieth century for Polish cities is a time of rapid development of industrialization [6] and urban planning. in the late 80's and 90's of the twentieth century, many factories had lost its role and ended activities in the 90s of the twentieth century, contributed to the bankruptcy [22].

The end of communism in 90's and start of the free market opened up new possibilities to re-use the industrial objects.

Art historians and conservators till the late 90's believed, that the old factories and production halls do not deserve protection. To this day, there are no efficient, implemented procedures for categorizing and assessing the value of industrial objects. We are not always able to protect unique, representative or important objects for cities history.

During the time of restructuration in the second half of twentieth century industrial areas lost their basic function. Factories were closed, local population lost jobs and as a consequence we could notice a sudden increase of unemployment, sometimes the desertification of entire brownfields. Degradation has progressed on many levels inter alia: economic, social, spatial and economic level. It was common that for period of 40-50 years post-industrial spaces were abandoned and neglected. In the 80's, industrial buildings had often been adapted (although it is difficult to say about proper adaptation) to the warehouse function. Some parts of the complex were adapted, other parts the industrial facilities were left to fall into ruins. Nev-

ertheless, there are still places of strong identity, very suggestive place inside the city centers.

Despite these changes, only the last few years are an example of the proper handling with this kind of monuments. It is worth mentioning, that many of the objects did not survive to our times. The legacy continues to imprint stamp on current form. We still notice problems in many areas even the lack of inadequate interpretation of the criteria (which sometimes eliminate the possibility of protection that objects) or the lack of efficient procedures - determining the value needed to the inscribe into the 'register of monuments'.

Identification the problem and search for a solution

The economic transformation from the 90's was supposed to be a beginning of a new chapter for industrial facilities. Old, industrial areas are often very attractive for potential investors. However they often see this process as problematic. Historical buildings must be adapted to new functions with conservational requirements, which increases costs of modernization and adaptation of these facilities [4].

Industrial objects often formed a widespread complexes difficult to maintain in good condition for a single owner. As a natural result they were subdivided into parts and sold. When buildings were not under conservatory protection demolition to build a new object has been common developers practice. On the other hand when they were protected objects have been left without proper care or service to decrease, lose their value, thanks to which they were entered to monuments register. Such practices were affected by perception industrial areas only as terrains for new investments, without paying attention to historical and cultural values of this monumental objects. Abandoned industrial objects has become an image of disappearing city [Figure 5].

Treating industrial areas as a threat, boundaries, barrier obstacle for harmonious urban development results in isolating brownfields from city space.

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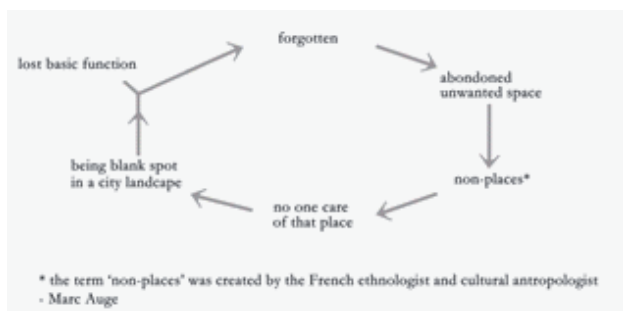


Figure 5. A diagram illustrating common treatment method of industrial areas – 'vicious circle'

tection. To this day, there is lack of efficient, implemented procedures for categorizing and assessing the value of industrial objects. It often prevents protection of unique, representative or important objects.

Industrial objects, which often occupy attractive parcels, are records of our culture and history, part of our identity. Proper treatment and re use of this terrains is a chance to preserve important values and bring back life to this certain city parts [Figure 6].

In the research, I assumed, that the formula of adaptation, on the one hand, will determine the rigors of conservation protection, on the other hand, implement application program that takes into account that rigors. Adaptation [14] of industrial facilities could become an appropriate form of protection of these objects and their surrounding, enabling preservation of immovable monuments characteristic for the local traditional buildings.

Process of adaptation – selection the proper function

Fundamental elements of a decision to call the industrial facility a monument should be an analysis and assessment of its historical value [16].

Assuming that the condition for the effective protection of the cultural values of historic structures is necessary. Scope of activities such as urban planning and environment protecting need to be enhanced. Undertake of such action will allow fulfilling social and economic needs of using historic buildings and areas. Principles of the free market, sustainable development and maintaining historical continuity can still and should be taken into account. Proper adaptation of industrial facilities can stimulate local economic development through promoting cultural values of protected historical substance.



Figure 6. 1.The Bottling Building in Koneser complex before adaptation in 2015. 2.The Bottles Warehouse Building in Koneser complex before adaptation in 2015. 3. General view of the assembly of the State Vodka Factory. Approach from the west-south, the confluence of streets and Ząbkowska Markowska. Fot. J. Malarski, ca.1927 Repr. in: ŚWIAT, 1928, vol 14, pp.27

Adaptation is a transformation of an object consisting of changing their purposes to different than its original. Depending on the scale of preservation and the expected final form, adaptation to new functional requirements may cause the need of subtraction new volumes or remodeling existing one even with reconstruction (non-existent building from the assumption). Adaptation does not have to (in some cases even cannot) lead to the restoration of the original shape of the object or the primary arrangement of urban layout. The ideal solution would be to preserve function, but in the case of industrial architecture it is rather impossible [Table 1].

Specific nature of Industrial architecture does not allow easy adaptation. Industrial complex are wide range, composed of many buildings.

Secondary division of high producing hall may cause loss of authenticity of form. It is important that with proper adaptation '(...)' the conservation of historical truth or the authenticity of work of art; use of scientific inquiry when making maintenance; ensurance of full reliability, based on a constant deepening of expertise and technology; provision of indisputable dominance of the monument both for integrating arrangement 'inside' work of art, and in the context of the surrounding scenery' [7].

Analysis of selected historical, industrial buildings that has been adapted to the new functions leads to conclusions. Most of these objects are adapted to the museum and the housing function. Some of them are adapted to the commercial functions such as a shopping malls, hotels and galleries. What is more, the increasing number of industrial facilities adapted to new functions can be seen for the last few years.

Table 1. Selected examples of adaptation

The city - the name's of building	Year of adaptation	The function of adaptation
Bytom - Bolko	2001	housing
Białystok - Osiedle tytoniówka	2010	housing
Będzisz - Fabryka materiałów wybuchowych	2011	museum
Gliwice - Lofty w starym spichlerzu	2008-2009	housing
Katowice - Walcownia	2014	museum
Katowice - Galeria Wilson	about 2008	museum/ artistic/ gallery
Katowice - Muzeum Śląskie	2015	museum
Katowice - Silesia	2005	commercial - shopping
Katowice - Lofty w Młynie	2010	housing
Łódź - Art Incubator	2014	cultural
Łódź - Biała fabryka Geyera	1990	museum
Łódź - Manufaktura	2006	multifunctional
Poznań - Kompleks Warzelnia	2014 first stage	housing
Poznań - Stary Browar	2009	commercial - shopping
Radom - Elektrownia	2014	museum
Szczecin - Stara Rzeźnia	2015	restaurant
Szczecin - Zajezdnia Sztuki	2010	museum
Szczecin - Trafostacja	2013	museum
Tychy - Tyski Browar	2004	museum
Warszawa - Centrum Praskie Koneser	2015 first stage	multifunctional
Warszawa- Fabryka Trzciny	2003	cultural
Wrocław - Dawna Słodownia	2009	hotel
Wrocław - Lofty Platinum	2012	housing
Zyrardów - Lofty	2011	housing
Zywiec - Browar	2011	museum

The introduction of new features, re-use of the monument, is appropriate, but not at the cost irretrievable loss of originality of the substance and form [12]. For some time, scientists, art theorists and conservators seek answers to the question – how far can you go in integration in the historical substance. To this day, there is no clear answer.

The essence of the conservation theory is to ensure that monuments – originals, conditions for survival in its entirety without transformation [20]. According to the Charter of Venice 'elements intended to replace the missing parts should harmoniously integrate into the whole, distinguished by both the parties authentic, so that the restaurant does not falsified document, art and history' [5].

All activities in the area of monuments should pursue the objective of protecting and make the message clear about original and authentic structure. It should also be stated that any copies are not able to replace what involve a good culture intact.

In many of the analyzed examples, investors are trying to use the identity of the place, moreover often imitate - create their own idea of factories to attract tourists. Prof. Tejchman wrote about this phenomenon, calling it 'Mc-Donadlization of monuments' [15].

One of the example is new development of the Brewery Hugger, named 'Old Brewery'. It used values of the place, especially the continuity and original historical elements, which are references to the identity of the industrial buildings. Occurrences of historical elements responses to needs of visitors, gives a sense of stability and permanence (the old, well known place). However, the 'Old Brewery' is not authentic, new elements are difficult to distinguish from the historical ones. They are creation of the historicizing space, creating only the landscape of historical factory which is used to induce increased consumption. In adaptation of historic buildings adapted to new functions, is important to preserve the past and urban composition of 'old' landscape, and also a space presented to the original function of the object, its history and social role.

'The historical continuity of the form, the place evokes strong and enduring associations and emotions with credibility and integrity. These associations will provide values for those activities that depend on convincing potential customers about the possession of these qualities' [2].

Such an imitation of space, by simplifying the media, is easily acquire by perception, which leads consumers being to used to idealized, candy images [9]. 'This type of communication is used mostly by mass media, entertainment, tourism and commercial art. But the form of such 'fake architecture' generates only superficial message, which is without a depth of experience that actual place produce' [23].

After a full analysis of objects can be seen that it is very important the choice of the function to the object, its structure or characteristics.

Industrial buildings since their inception were full of

life. The whole foundation created cities where life went on in the rhythm of machines. Growl, clanging, groaning, the bells, the smell of grease and machine elements.

Considering the partial nature of industrial architecture, exposition of machinery and technical equipment, that made long-standing historical function is crucial to prevent tradition of the place from obliteration. That should be emphasized showing the particular importance of didactic function [8] of described objects.

Summary

Adaptation is a transformation of an object consisting of changing their purposes to different than its original. The ideal solution would be to preserve function.

What is important is the amount of undertaken adaptations is increasing [Figure 7].

Proper adaptation is:

- protection of the cultural values of historic structures
- fulfilling social and economic needs
- taken into account the sustainable development and maintaining historical continuity
- stimulate local economic development through promoting cultural values of protected historical substance
- protection of the monuments values
- saving identity of the place

Conclusions after researches are:

1. **To create proper adaptation, described objects should be analyzed along with their history and monumental values;**

The Huger Brewery was enter into register of monuments in 1984 [11]. Then it was also detailedly described in the ‘White Charter’. At the time, public awareness of the values of industrial objects was low, even in the environment conservation. Charter does not specify the precious value precious and worth protecting, have not been well defined conservation guidelines for future transformations.

On the basis of opinion given by Professor Jan Skuratowicz (art historian) it can be clearly stated that the brewery Huger was the only one brewery in a area of the city Poznan in the 90s of the twentieth century.

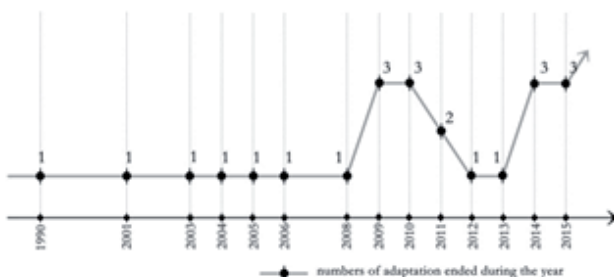


Figure 7. A quantitative diagram illustrating increasing amount of undertaken adaptations

According to the opinion arrangement of buildings should be preserved, newer additions should be removed for readable forms the entire foundation. Changes were allowed inside to adjust the object to the new technical conditions. Modern architectural supplement should not compete with the historical part, but rather to emphasize its advantages. Unfortunately, many of these points were not included in the decision on entry into the register, nor were they in the recommendations of the Municipal Conservator Monuments as a condition of adaptation of the building.

2. New function cannot blur original values;

In the process of the adaption the historical values of ‘Old Brewery’ object has been blurred. The boundary between the historical and authentic part, and newer and historicizing – ‘faked’. New buildings that replaced historic one, have created a completely new picture of the whole complex. However, the positive examples can be found in the Tradition Park in Siemianowice Śląskie.

3. Industrial buildings have their own, unique character.

Very often they are single-space, few stories tall halls-dividing this space to smaller volumes make their original look vanish;

The conservation requirements should exclude every form of usage, which prevent the public access. For such function is not the housing one. For example the Scheibler lofts do not meet these requirements, the project site is fenced with limited access for the local community. Completed lofts can be determined rather as non-lofts. Designed flats are ordinary apartments, one, two or three-story with a small living area (about 50 m²). The proposed adaptation is rather an apartment building hidden behind industrial elevations.

High and big hall was divided into small pieces through the introduction of small apartments. This action causes the destruction of all characteristic element of hall, an essential feature of this type of objects. We can talk about interesting interiors, but dividing or dismemberment is not appropriate for the structure in post-production building. The external character of the architecture has been preserved, listed brick façade layer retains the original architectural detail. Though the nature of the industrial architecture, removal or failure of machinery and technical equipment makes the long-standing historical function is illegible and the tradition of the place is blurred.

That is why it is especially important in the heritage objects of industrial is developed the didactic function [1]. In addition to the behavior of the system and urban complex composition, an important element is the creation of adequate space for explanations of the original function of the object, for the presentation of their history and role in society. Lofts not create attractive cultural space does not propose a new quality or desired social impact, which we expect from the revitalization process.

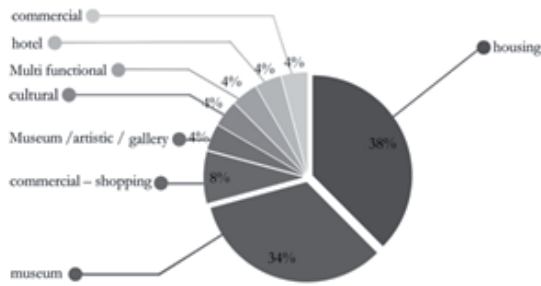


Figure 8. A percentage diagram illustrating industrial facilities and function they were adapted for

Question remains whether it is reasonable to achieve a new quality of space at the expense of the historic building and the proposed new spatial quality is adequate.

4. Not all communities need museums, it is not always clear how to use certain buildings;

As the table 1 shows the most popular function of adaptation is the museum and the housing (which was described in 2 section). Industrial facilities are usually adapted for function: museum and housing [Figure 8].

One of the first in the world and in Poland adaptation the post-industrial architecture was to the museum function (preserved museum). Geyer's factory is located in a center of Lodz nearby Piotrkowska street (the most important street in Lodz). Today, the White Factory is the seat of the Central Museum of Textiles, built by the family of the Saxon immigrant, Ludwig Geyer, in the years 1835-1886.

Was preserved whatever they could from the original design and appearance of the building and could be reconciled with the new feature. When in the '50s began adaptation 'postindustrial walls' for the purposes of historical – artistic – technical museum nobody else – neither in Poland nor in the world – did not think of re-using of industrial buildings, as a precedent theoretical and practical problem. What is worth the awards, the efforts of all those responsible for the revitalization of Geyer's factory, the behavior as closed as possible of its historical substance.

5. Once that places were full of life, living parts of the cities- it should be our aim to bring back this life and bring them back to urban organisms;

The Tradition Park was established in an old engine closed mine 'Michael' [19]. The current object has four floors which are located inter alia: modern conference room as well as steam hoisting engine (machine) from 1905 [18], model of the furnace and one of the biggest collection of mining lamps, as well as exhibits related to the Silesian industry.

In 2008, the city Siemianowice Śląskie took over the decaying engine building and the shaft 'Cristin', which were then in private hands. In the same year renovations

and refurbishment of the object has been started. the establishment of the Park Tradition has become one of the major challenges faced by the municipality, and one of the most ambitious investment in recent history Siemianowic.

The area around the building and the tower shaft 'Cristin' was handled in to meet the diverse needs of both residents and visitors of Siemianowice. the area is ideal for walking and spending time on air and allows to organize large outdoor events. Extraction tower shaft 'Cristin' at night is impressively highlighted, what has become the undisputed proud of Michałkowice district.

The building of the museum has very important exhibition, not only for tourist but also for habitants. It preserves the memory of the past of the city Siemianowice and parts of Silesia. This is a very important point on the trail of 'technology monuments' [10] on Silesian's earth.

6. Factories were multifunctional- they often used to form entire, small cities;

The factories Prince's mill complex is outstanding work, matching in many ways buildings listed as UNESCO World Heritage Site. Linking settlements and factories axis of the main avenue, gives this complex a rare monumental urban composition and strongly emphasizes the unity of the whole area [23]. A very important aim of the restoration should be to protect the integrity of the whole project. Currently, these areas are divided into small parts, each of which has a different owner.

Before the rise lofts 'At Scheibler's' was adapted neo-Renaissance palace, designed by Hilary Majewski, with park and pond at the city museum. Also failed to re-develop smaller objects such as a building fire brigade at the office of the bank, while maintaining clarity of the original function of the fire station. However, there has been proposed a comprehensive revitalization complex involving individual investors and city authorities to work together. Only the individual objects have been independently adopted.

7. Multifunctional hybrids are the answer to nowadays needs- everything in range, in one place – this would be the most efficient and beneficial solution from all points of view;

Following the successful adaptation of the object were prepared for another adaptation of industrial objects such as the revitalization of the complex of the Warsaw Vodka Factory 'Koneser' in Praga district. The first restored building Kordegarda, a part of Google Campus announces how the whole complex will be look like after adaptation. In the Koneser Complex will be build residential, office, theater, museum and hotel. It has to be a place for the exhibition of Polish design. The whole will be accessible for pedestrians and cyclists. This project is creating a piece of real city, living the entire day, as it was in a turn of nineteen and twenties century. Therefore, the complex is development of a mixed –used.

Discussion and Conclusion

In the process of adaptation, one of the most difficult tasks is the proper use of buildings. Exposing the historical values of such monuments should become a general aim. Furthermore, in addition to form, new use of the interior, new function and the use of old equipment as part of the historic interior decorations, the design also had to be economically convincing deliver and inhabitation needs.

The conservation of monuments, therefore, is a set of procedures and guidelines describing methods of preventing damage, the specific methods to protect against damage, considered to be important – as historical certificates, elements which create the cultural landscape. Today, protection of historical monuments, both tangible and intangible is the duty of a constitutional state. ‘(...) Important elements of this heritage are the monuments, which in its intangible values are the common good. Art. 82 of the Constitution states that it is the responsibility of the Citizen (...) is a concern for the common good’ [17].

The research is linking the protection of cultural values with new, modern usability features of historic buildings. Creating a chapter of adapted industrial building compared values before and after integration.

One of the most desirable goal is to establish a set of guidelines which purpose is to define investments opportunity of industrial monuments. Those instructions or regulations should be determined by conservation requirements, creating the didactic function, socio- spatial aspects and aesthetic quality of the objects.

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